1107-47-450 **Flavia Colonna** and **Rachel Locke***, 4400 University Drive, MS: 3F2, Exploratory Hall, room 4400, Fairfax, VA 22152. *Multiplication operators on the Zygmund space over a tree.*

In recent years, the operator theory of many functional Banach spaces that arise in complex function theory has been studied extensively. However, very little has been done in a discrete setting. An important class of operators to be discussed in this talk is the *multiplication operators*

$$M_\psi(f) = \psi f,$$

where ψ is a function defined on an infinite rooted tree T and f belongs to a functional Banach space with domain T. An environment for this study is a space $\mathcal{Z}$ of functions on T such that f' belongs to the Lipschitz space $\mathcal{L}$, that is, satisfies

$$|f'(v) - f'(w)| \leq C\, d(v,w), \quad v,w \in T,$$

for some $C > 0$, where $d(v,w)$ is the number of edges in the unique geodesic path from v to w. The space $\mathcal{Z}$ may be considered as a discretization of the familiar Zygmund space of analytic functions on the open unit disk. The main focus of this talk will be on characterizing the bounded and the compact operators M_ψ and describing the spectra. (Received January 20, 2015)